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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,530	10/23/2001	Kazuhito Horiuchi	P/16-305	4882

2352 7590 03/09/2006

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EXAMINER

MADDEN, GREGORY VINCENT

ART UNIT PAPER NUMBER

2612

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/045,530

Applicant(s)

HORIUCHI, KAZUHITO

Examiner

Gregory V. Madden

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 4-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION*****Response to Arguments***

Applicant's arguments filed December 14, 2005 have been fully considered but they are not persuasive.

Regarding **claim 1**, the Applicant argues that the Takahashi reference (U.S. Pat. 5,929,908) does not show “*an information acquiring means for, prior to actual photographing, acquiring information regarding a dynamic range...*”. The Applicant contends that by storing a first image in memory 7 and subsequently determining dynamic range information based on information from the first image, the reference does not show that the information is acquired prior to actual photographing. However, the Examiner interprets “actual” photographing in this case to be the image output from the camera (OUT in Fig. 1). In the instance where a first image is captured and a determination is made that the dynamic range of the final image should be adjusted (determination by dynamic range expansion deciding unit 9), the conditions for “actual” photographing are set by the exposure controller 11, a second image is taken, and a final image is output from the image processing unit 12. For these reasons, the Examiner believes that the Takahashi reference sufficiently discloses an information acquiring means (histogram generator 8) for, prior to actual photographing (i.e. final output image), acquiring information concerning a dynamic range, which is required to photograph a photographic scene, with a condition for exposure varied diversely (exposure varied by exposure controller 11). Even though the “actual” photograph of Takahashi may be a synthesized image of the first image stored in the memory 7 and an image with an expanded dynamic range stored in memory 6, the Examiner still believes that the dynamic range information is acquired and adjustments are made prior to the taking of the “actual” photograph (that is, the final output image from image processing unit 12). Further, the Examiner also notes Col. 5, Lines 5-9 discloses that

Art Unit: 2612

data from a photometer is used to determine the various exposure settings of the camera prior to capture of the first image.

Additionally, Applicant amended claim 1 to include the limitations previously set forth in **claims 2 and 3**, and thus canceled claims 2 and 3. However, the Examiner had previously rejected claims 2 and 3 in view of Takahashi, and therefore the limitations contained in these claims remain rejected in view of Takahashi. As such, newly amended claim 1 remains rejected in view of Takahashi.

As for **claims 4-21**, Applicant argues that due to their dependence from claim 1, these claims are patentable over the cited art. However, because the rejection to claim 1 is maintained, the rejection to dependent claims 4-21 is also maintained.

Please refer to the updated rejection of claims 1 and 4-21 set forth below.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1, 5, 6, and 8-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi et al. (U.S. Pat. 5,929,908).**

Regarding **claim 1**, the Takahashi reference shows an information acquiring means (histogram generator 8) that acquires information concerning the dynamic range prior to actual photographing, an analyzing means (dynamic range expansion deciding unit 9) that analyzes the information acquired by the information acquiring means, a conditions-for-photographing setting means (parameter determination unit 10) for setting the conditions for photographing based on the results of the analysis performed by the

Art Unit: 2612

analyzing means, and finally a photographing means (exposure controller 11, lens 1, low-pass filter 2, iris diaphragm 3, and CCD 4) that performs the actual photographing under the conditions set by the conditions-for-photographing setting means (See Fig. 1 and Col. 5, Lines 5-45). Takahashi further shows that the histogram generator (8) acts to synthesize information concerning the dynamic range acquired, and the generator also produces a histogram of the synthesized information, as is shown in Fig. 1 and Col. 5, Lines 13-16. Finally, Takahashi also teaches an image processing unit (12) that converts an image produced during actual photographing according to the results of analysis performed by the analyzing means (See Col. 6, Lines 46-49 and Fig. 1).

Regarding **claim 5**, Takahashi shows, in Col. 5, Lines 20-25 and Figs. 2 and 3, that information concerning the dynamic range acquired is luminance information concerning a photographic scene.

In regard to **claim 6**, Takahashi teaches that the conditions-for-photographing setting means (parameter determination unit 10) sends information needed to drive a shutter in Col. 5, Lines 38-45.

As for **claim 8**, the Takahashi reference shows that the conditions set by the conditions-for-photographing setting means is information concerning a plurality of exposure levels (in this case two) that signify different exposures (See Col. 5, Lines 59-67 and Col. 6, Lines 1-3).

Regarding **claim 9**, Takahashi teaches that the photographing means performs actual photographing during which exposure is performed a plurality of times under varied exposure settings, as is shown in Col. 6, Lines 40-49.

As for **claim 10**, Col. 10, Lines 27-40 and Fig. 9 of Takahashi shows that the conditions-for-photographing setting means judges from the result of the analysis performed by the analyzing means whether a condition for exposure acquired is appropriate or not, and when inappropriate, changes the condition for exposure and instructs that the information be acquired again.

In regard to **claim 11**, Takahashi teaches the limitations of claim 10, as shown above, and the reference also shows that when the condition for exposure is changed after being judged inappropriate,

Art Unit: 2612

the condition for exposure is changed to make an image darker (as with an overexposed image) or brighter (as with an underexposed image) (See Figs. 8A-D and Col. 10, Lines 44-54).

Regarding **claim 12**, Takahashi shows that the conditions-for-photographing setting means (parameter determination unit 10) are adjusted based on the result of analysis performed by the analyzing means (dynamic range expansion deciding unit 9), as is shown in Col. 5, Lines 38-45 and Fig. 1.

As for **claim 13**, Takahashi shows that the conditions-for-photographing means adjusts the ratio of different conditions for exposure based on the result of analysis performed by the analyzing means (See Col. 5, Lines 46-67, Col. 6, Lines 1-28, and Table 1).

For **claim 14**, Takahashi teaches the limitations of claim 12, as shown above, and the reference also teaches that the adjusting means adjust conditions for photographing according to the dynamic range required, as is shown in Col. 5, Lines 17-25.

Regarding **claim 15**, Takahashi teaches the limitations of claim 13, as shown above, and the reference also teaches that the adjusting means adjust conditions for photographing according to the dynamic range required, as is shown in Col. 5, Lines 17-25.

In regard to **claim 16**, Takahashi shows the limitations of claim 12, shown above, and also teaches that the adjusting means checks the conditions for photographing set based on the result of analysis performed by the analyzing means (dynamic range expansion deciding unit 9), and adjusts the conditions for photographing if necessary (See Col. 5, Lines 17-25).

As for **claim 17**, Takahashi shows the limitations of claim 13, shown above, and also teaches that the adjusting means checks the conditions for photographing set based on the result of analysis performed by the analyzing means (dynamic range expansion deciding unit 9), and adjusts the conditions for photographing if necessary (See Col. 5, Lines 17-25).

Regarding **claim 18**, Takahashi teaches the limitations of claim 16, discussed above, and also shows, in Col. 5, Lines 39-45, that the information checked by the adjusting means is that of an f-number (i.e. value for the iris diaphragm).

In regard to **claim 19**, Takahashi teaches the limitations of claim 17, discussed above, and also shows, in Col. 5, Lines 39-45, that the information checked by the adjusting means is that of an f-number (i.e. value for the iris diaphragm).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (U.S. Pat. 5,929,908) in view of Wang (U.S. Pat. 6,850,642).**

Regarding **claim 4**, Takahashi teaches the limitations of claim 1 above, but the reference does not show a gray scale arithmetic means that produces a gray scale conversion curve using the histogram which represents the distribution of frequencies that are equal to or larger than a predetermined value among the values of frequencies contained in the histogram. The Wang reference, however, does show a gray scale arithmetic means that produces a gray scale conversion curve according to the claim in Col. 2, Lines 19-44, and Figs. 2 and 3. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the histogram arithmetic means of Takahashi with the gray scale arithmetic means of Wang. One would have been motivated to do so because by using only the gray scale

Art Unit: 2612

conversion curve, which linearly maps the peaks of the histogram, possible noise reflected on the original histogram may be filtered out and the relative brightness of the image is preserved, as Wang states in Col. 2, Lines 16-17.

**Claims 7, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (U.S. Pat. 5,929,908) in view of Alston et al. (U.S. Pat. 4,647,975).**

Regarding **claim 7**, Takahashi teaches the limitations of claim 1, as set forth above, but does not show that the photographing means includes a flashlight emitting means that is controlled based on the conditions for photographing set by the conditions-for-photographing setting means. The Alston reference, however, does show a flashlight emitting means (flash 50) that can be controlled (in this case, by timing control circuit 34) based on the conditions set by the conditions-for-photographing setting means, as is taught in Col. 5, Lines 32-41. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the flashlight emitting means of Alston with the image pickup apparatus of Takahashi. One would have been motivated to do so because by providing artificial illumination on the image to be captured, both the foreground and background of a scene may be adequately illuminated, and thus adequately exposed, as Alston shows in Col. 9, Lines 24-35.

As for **claim 20**, Takahashi teaches the limitations of claim 12, as shown above, but again does not show that the photographing means includes a flashlight means and that the adjusting means adjusts the conditions for photographing according to the use situation of the flashlight emitting means. The Alston reference, however, does show this limitation in Fig. 1 and Col. 5, Lines 32-41.

As for **claim 21**, Takahashi teaches the limitations of claim 13, as shown above, but again does not show that the photographing means includes a flashlight means and that the adjusting means adjusts



Art Unit: 2612

the conditions for photographing according to the use situation of the flashlight emitting means. The Alston reference, however, does show this limitation in Fig. 1 and Col. 5, Lines 32-41.

### *Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory V. Madden whose telephone number is 571-272-8128. The examiner can normally be reached on Mon.-Fri. 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc Yen Vu can be reached on 571-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2612

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gregory Madden  
March 2, 2006

A handwritten signature in black ink, appearing to read 'Ngoc-Yen VU', with a long horizontal stroke extending to the right.

NGOC-YEN VU  
SUPERVISORY PATENT EXAMINER